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Department of Library & Information Science  
School of Communication, Information, and Library Studies,  
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**SPECIALTY AREAS**

User-group modelling; Collaborative information retrieval; User interface design for information retrieval systems; Digital libraries; Human-computer interaction

**EDUCATION**

Ph.D., Information Studies, University of Toronto, Toronto, 1998

Concentration: Human-Computer Interaction

Dissertation title: *A study of the effects of user characteristics on users' mental models of information retrieval systems.*

M.A., Department of Information Management, Peking University, Beijing, China, 1985

Major: Information Storage & Retrieval

B.A. Department of Information Management, Peking University, Beijing, China, 1982

**PROFESSIONAL EXPERIENCE**

- Sept. 2002 – present  
Assistant Professor  
Department of Library and Information Science, School of Communication, Information and Library Studies, Rutgers University
- August 1998 – August 2002  
Assistant Professor  
Library and Information Science Program, Wayne State University

**OTHER WORKING EXPERIENCE**

- May 1993 – July 1998  
Systems Analyst/Programmer (Project)  
University of Toronto Library, Information Technology Services.

Duties:

- Developed Web applications. IBM AIX platform, Netscape Enterprise Server 3.01/3.51.  
CGI/WAI programming (C, C++, Perl) for Web-based data services.
  - Set up and administered various computer networks.
- November 1988 -- April 1990

Systems manager assistant (part time)  
Faculty of Information Studies, University of Toronto.

Duties:

- Setup & maintenance of a Novell network
  - Computer lab assistance to users
  - Writing of technical documentation on the Novell network
- December 1984 -- August 1988  
Research Fellow/Software Engineer  
Documentation and Information Center, Chinese Academy of Social Sciences, Beijing, China  
Duties:
    - In charge of computer applications
    - Developed PC-based automatic library acquisition and cataloguing system for the Chinese Academy of Social Sciences Library.
    - Systems designing for an integrated information system for the Chinese Academy of Social Sciences that included academic administration, bibliographic information retrieval, and library automation subsystems.

## PUBLICATIONS

Jingjing Liu, Xiangmin Zhang (2008), "The Effect of Need for Cognition on Search Performance," *Proceedings of the 71<sup>th</sup> Annual Meeting of the American Society for Information Science and Technology*. Medford, NJ.: Information Today, 10 p.

Zhang, X., Li, Y., Liu, J. & Zhang, Y. (2008), Effects of Interaction Design in Digital Libraries on User Interactions. *Journal of Documentation*, 64(3):438-463.

Zhang, X. & Li, Y. (2008), Use of Collaborative Recommendations for Web Search: An Exploratory User Study. *Journal of Information Science*, 34(2):145-161.

Xiangmin Zhang, Yuelin Li, Ying Zhang, Gerry Grenier, Mehul Trivedi, Douglass Gischlar (2007), Effects of different field weights on search performance in digital libraries: A preliminary study. *Proceedings of the 70<sup>th</sup> Annual Meeting of the American Society for Information Science and Technology*. Medford, NJ.: Information Today, 13 p.

Xiangmin Zhang, Yuelin Li, Jingjing Liu and Ying Zhang (2007), Effects of browse design in digital libraries on users' browsing experience. *Proceedings of Libraries in Digital Age Conference*, Dubrovnik, Croatia, 10 p.

Art Taylor, Bill Amadio and Xiangmin Zhang (2007). Improving Searches of Digital Collections: Relevance Criteria Choices and the Information Search Process (poster). *Proceedings of Libraries in Digital Age Conference*, Dubrovnik, Croatia.

Jingjing Liu and Xiangmin Zhang (2007). Document Recommender Systems: Approaches to Increasing Information Retrieval Effectiveness. *Library and Information Service*, 51(12): 11-18.

Yuelin Li, Xiangmin Zhang, Ying Zhang, & Jingjing Liu (2006), Trained vs. untrained searchers'

interaction with search features in digital libraries. *Proceedings of the 69<sup>th</sup> Annual Meeting of the American Society for Information Science and Technology*. Medford, NJ: Information Today, 6 p.

Yuelin Li, Xiangmin Zhang, Ying Zhang, & Jingjing Liu (2006), A comparative study of the effect of search feature design on user experience in digital libraries. *Proceedings of ACM SIGIR'06*, pp.669-670.

Zhang, X., Anghelescu, H. & Yuan, X. (2005). Domain Knowledge, Search Behavior, and Search Effectiveness of Engineering/Science Students: An Exploratory Study. *Information Research*, 10(2) paper 217 (2005) [Available at <http://InformationR.net/ir/10-2/paper217.html>].

Zhang, X. & Han, H. (2005) An Empirical Testing of User Stereotypes in User Modeling for Information Retrieval Systems. *Information Processing and Management*, 41(3):651-664.

Zhang, X., Li, Y., & Jewell, S. (2005). Design and evaluation of a prototype user interface supporting sharing of search knowledge in information retrieval. *Proceedings of the 68<sup>th</sup> Annual Meeting of the American Society for Information Science and Technology*. Medford, NJ: Information Today, 10 p.

Zhang, X & Li, Y. (2005) An Exploratory Study on Knowledge Sharing in Information Retrieval, *Proceedings of the 38<sup>th</sup> Annual Hawaii International Conference on Systems Science* (CD-ROM), January 3-6, 2005, Computer Society Press, 2005. 9 p.

H. Han, E. Manavoglu, H. Zha, K. Tsioutsoulouklis, C. Lee Giles, X. Zhang (2005). Rule-based Word Clustering for Document Metadata Extraction, *Proceedings of ACM SAC'05*, pp. 1049 – 1053.

Zhang, X. (2005). Issues of Applying Collaborative Filtering Recommendations in Information Retrieval, in *Beyond Personalization 2005 Workshop in International Conference on Intelligent User Interfaces (IUI 2005)*, San Diego, January 2005.

Xiangmin Zhang (2004). Rejoinder: Quality of information, *Journal of the American Society for Information Science and Technology*, 55(1) (2004), 92. (Letter to the editor, in response to a letter discussing the paper of Zhang (2002)).

N.J. Belkin, I. Chaleva, M. Cole, Y.-L. Li, L. Liu, Y.-H. Liu, G. Muresan, C. L. Smith, Y. Sun, X.-J. Yuan, X.-M. Zhang (2004) Rutgers' HARD Track Experiences at TREC 2004, in *Proceedings of TREC 2004*, Gaithersburg, November 2004.

N.J. Belkin, G. Muresan and X.-M. Zhang (2004), Investigating the Effect of the Use of User's Context on IR Performance, in *Workshop on Information Retrieval in Context (IRiX) at SIGIR 2004*, Sheffield, England.

Zhang, X. (2003). Digital Libraries: Research and Practice in the United States, *Social Sciences Abroad* (Chinese social sciences journal), January 2003, pp. 66-72. (Translated into Chinese by Y. Chen).

Zhang, X. (2003). Discriminant Analysis as a Machine Learning Method for Revision of User

Stereotypes of Information Retrieval Systems. *Proceedings of the Workshop for Machine Learning, Information Retrieval and User Modeling at User Modeling 2003*. pp. 1-10.

Zhang, X. (2003). Expertise, Search Behavior, and Search Performance of Engineering Users. *Proceedings of the 66th Annual Meeting of the American Society for Information Science and Technology*, Vol.40, pp.546 - 547.

Zhang, X., with Belkin et al. (2003). Rutgers' HARD and Web Interactive Track Experiences at TREC 2003. *Proceedings of TREC 2003*, Gaithersburg, November 2002.

Zhang, X. (2002). Collaborative relevance judgment: A group consensus method for evaluating user search performance. *Journal of the American Society for Information Science and Technology*, 53(3):220-235.

Zhang, X., Strand, L., Fisher, N., Ayoub, O., & Kneip, J. (2002). Information Architecture as reflected in classrooms. *Proceedings of the 65th Annual Meeting of the American Society for Information Science and Technology*. Medford, NJ: Information Today, pp.74 - 82.

Zhang, X. & Chignell, M. (2001). Assessment of the effects of user characteristics on mental models of information retrieval systems. *Journal of the American Society for Information Science and Technology*, 52(6): 445-459.

Zhang, X. (2001). Java security: Issues and implications for library and archival systems. *Library & Archival Security*, 16(2): 5-20.

Zhang, X., Anghelescu, H. & McMinn, S., (2001). Impact of Users' Subject Domain Knowledge on Search Results. *Proceedings of the 64th Annual Meeting of the American Society for Information Science and Technology*, Vol.38, p.650.

## **TECHNICAL REPORTS**

Zhang, X. (2005). "Usability Evaluations of the IEEE Xplore User Interface, Part 1 & 2." (December 2005).

Zhang, X. (2005). "Relevance Ranking Project: A Report on the Effectiveness of different Weighting methods in the IEEE Xplore digital library." (September 2005).

## **CONFERENCE PRESENTATIONS**

"Effects of different field weights on search performance in digital libraries: A preliminary study." *The 70th Annual Meeting of the American Society for Information Science and Technology*, Milwaukee, WI, Oct. 28, 2007

"Effects of browse design in digital libraries on users' browsing experience." Library in the Digital Age Conference, Dubrovnik, Croatia, May 28, 2007.

"Document Recommendations: Technologies and Issues." The Annual Conference of the Society of Scholarly Publications, Arlington, VA, June 8, 2006.

“Design and evaluation of a prototype user interface supporting sharing of search knowledge in information retrieval.” *The 68<sup>th</sup> Annual Meeting of the American Society for Information Science and Technology*. Charlotte, NC, October 30, 2005.

“An Exploratory Study on Knowledge Sharing in Information Retrieval.” *The 38<sup>th</sup> Hawaii International Conference on Systems Science*, Big Island, Hawaii, January 4, 2005.

“Domain Knowledge, Search Behavior, and Search Effectiveness of Engineering/Science Students: An Exploratory Study” *Information Seeking in Context Conference*, Dublin, Sep.3, 2004.

“Investigating the Effect of the Use of User’s Context on IR Performance.” *Workshop on Information Retrieval in Context (IRiX) at SIGIR 2004*, Sheffield, England, July 2004.

“Rutgers’ HARD and Web Interactive Track Experiences at TREC 2003.” TREC 2003, Gaithersburg, MA, November 18-21, 2003.

“Discriminant Analysis as a Machine Learning Method for Revision of User Stereotypes of Information Retrieval Systems.” *Workshop for Machine Learning, Information Retrieval and User Modeling, 9<sup>th</sup> International Conference on User Modeling (UM’03)*. Johnstown, PA, June 22, 2003.

“Information Architecture as reflected in classrooms”. *Annual Conference of the American Society for Information Science and Technology*, Philadelphia, November 15 – 21, 2002.

#### **INVITED TALKS AND OTHER PRESENTATIONS**

“Usability testing of interaction design in digital libraries.” National Science Library of China, June 27, 2007.

“Trends in Information science research and education.” Department of Information Management, Peking University, Oct. 21, 2006.

“Information Searching as Social Behavior: Implications for Technology Support.” Rutgers, SCILS Research Day, March 3, 2004.

“Semantic Web, Digital Libraries and LIS in North America.” Department of Information Management, Peking University, May 30 2002.

“Semantic Web and Digital Libraries.” Documentation Center, Chinese Academy of Social Sciences, May 26 2002.

“Educating information architects: Issues and challenges.” The December 2001 meeting of the Great Lakes Information Architects, Detroit, December 4, 2001.

“User-Centered User Interface Design.” Cathay Roxus Information Technology Co., Beijing, China, Summer 2000.

“Relevance Judgments by Group Consensus”. Presentation made at the *Second Great Lakes Information Science Conference*, University of Toronto, Toronto, October 26-27, 1996. Abstract published in the *Canadian Journal of Information and Library Science*, Vol.21, No.4, p67.

“Measuring Differences between User Mental Models of IR Systems: A Methodology Design.” Presentation at the *Research Day, Faculty of Information Studies*, University of Toronto, Toronto, February 27, 1993.

## GRANTS

- Oct 1, 2007 – Sept 30, 2010: “Personalizing the Digital Library Experience,” Institute of Museum, Library and Information Science, co-PI (with two other co-PIs: Nick Belkin, Jacek Gwizdka); \$964,890.00.
- July 2007 – May 2008: “Eliciting and Modeling Users’ Subject Domain Knowledge.” Rutgers University, Research Council Grant Award, \$1100.
- November 2006 – June 2007: “Subject Domain Knowledge Modeling: A Software Tool.” SCILS Grants to Get Grant: \$1472.
- July 2006 – May 2007: “Detecting Difficult Search Tasks during the Interactive Search Process” Rutgers University, Research Council Grant Award, \$2000.
- June 2004 -- 2006: PI: “Experiment and Evaluation of Digital Library Performance.” Funded by the IEEE, Inc., \$107,000.
- July 2005 -- May 2006: “Task Difficulty and Personality in Collaborative Information Retrieval.” Rutgers University, Research Council Grant Award, \$2600.
- July 2004 – May 2005: “Information Retrieval Supporting Sharing of Expertise.” Rutgers University, Research Council Grant Award, PI, \$1800.
- July 2003 – May 2004: “Prototyping a User Model-Based Information System.” Rutgers University, Research Council Grant Award, \$1700.
- 2003-2004: “Testing the Effectiveness of Collaborative Filtering for Information Retrieval Systems in a Virtual Laboratory: A Pilot Study.” Rutgers University, Information Science & Technology Council Grant Award, \$24,786.
- 2001-2002: “Representing and Using People’s Subject Domain Knowledge to Optimize Information Retrieval Results.” Wayne State University Small Research Grant, \$950.

## OTHER FUNDED RESEARCH PROJECTS

- 2006-2007: “Personality and search behavior,” sponsored by the Chinese Search Behavior Laboratory, Peking University.
- May 1985 -- March 1987  
Member of a team which designed a software system for automatic indexing and retrieval of scientific and technological literature in Chinese (SAIRSTLC, one of the first practical Chinese information retrieval systems in China). The project was supported by the State Educational Commission of China. A report, *An Overview of the System of SAIRSTLC*, a description of the system was published in the *Journal of Chinese Information Science* (in Chinese).
- July 1985 -- Feb. 1986  
Worked on a project as member of a team that examined the administrative structures for different types of state economic information systems. Sponsored by the State Planning Commission of China. A final report titled as *Analysis of Reflections on the Management Structure of the State Economic*

*Information Systems* was published internally.

- June -- October 1984  
Investigated microcomputer applications in China, particularly in the field of manufactures, as member of a team. The result of the project depicted computer applications in the early stage in China's manufacturing section. Sponsored by the State Scientific & Technological Commission of China. A report was published internally.

## TEACHING EXPERIENCE

### **Rutgers University:**

Ph.D. Program of Communication and Information Studies:

- *Human-Computer Interaction* (Spring 2005, Spring 2006)

Master of Library and Information Science program:

- *Information Technology for Libraries and Information Agencies* (Fall 2002 – present).
- *Interface Design* (Spring 2003, Spring 2004)

Master of Communication and Information Studies program:

- *Information Systems* (Fall 2003, Fall 2004)

Information Technologies and Informatics (Undergraduate) program:

- *Working with Linux* (scheduled for Spring 2008)

### **Peking University:**

Graduate course: Human-Computer Interaction (Sept – Oct., 2006)

### **Wayne State University:**

Master of Library and Information Science course:

- *Information Technology*
- *Internet*
- *Scripting languages (Perl&CGI)*
- *Interactive Web Design (Java Applets)*
- *Multi-User Computing Environment: UNIX*

## PROFESSIONAL SERVICES

- Chair, ASIS&T New Jersey Chapter, 2004-2005
- Program Chair, ASIS&T New Jersey Chapter, 2003-2004
- School of Communication, Information and Library Studies, Rutgers University: Research Committee, Nov. 2005 – May 2006
- School of Communication, Information and Library Studies, Rutgers University: IT Committee, December 2002 – May 2003
- Department of Library and Information Science, SCILS, Rutgers University:
  - MLIS Admissions committee, Sept 2005 -
  - Governance committee, October 2004 – September 2005
  - Research Committee, October 2002 – October 2004
  - Faculty search committee, fall 2003.

- WSU Library System:
  - Scholarly Research Award Jury, 2000, 2001
  - Purdy Award Committee, 2000
  - DALNET Search Engine Task Force, 2000
- Library and Information Science Program, Wayne State University:
  - Member of the Faculty Search Committee, 1998 – 2000
  - Member of the Committee for Joint Doctoral Program with School of Business, 1999 – 2002
  - Member of the Salary Committee, 1999-2000.
- Academic Reviewer:
  - The IEEE International Conference on Intelligence and Security Informatics, ISI 2008
  - Social Sciences and Humanities Research Council of Canada (reviewed grant application), 2007
  - ACM SIGIR 2006 Workshop - Evaluating Exploratory Search Systems, 2006
  - User Modeling and User-Adapted Interaction: The Journal of Personalization Research (UMUAI), 2006
  - ACM SIGIR 2005 papers and posters, 2005
  - Journal of the American Society for Information Science and Technology, 2005
  - The IEEE International Conference on Intelligence and Security Informatics, ISI 2005
  - Special issue of the International Journal of Digital Libraries, 2004
  - Special issue of the ACM Transactions on Information Systems, 2003

#### **PROFESSIONAL ORGANIZATION MEMBERSHIPS**

- The American Society for Information Science & Technology (ASIS&T), 1997 - present
- The Association for Computing Machinery (ACM), 1998 - present